CHAPTER 5

WATER QUALITY PARTNERSHIPS IN THE WATTS BAR WATERSHED

5.1 Background. The Watershed Approach relies on participation at the federal, state, local and nongovernmental levels to be successful. Two types of partnerships are critical to ensure success:

- Partnerships between agencies
- Partnerships between agencies and landowners

This chapter describes both types of partnerships in the Watauga River Watershed. The information presented is provided by the agencies and organizations described.

5.2 Federal Partnerships.

5.1.A. Natural Resources Conservation Service. The Natural Resources Conservation Service (NRCS), an agency of the US Department of Agriculture, provides technical assistance, information, and advice to citizens in their efforts to conserve soil, water, plant, animal, and air resources on private lands.

Performance & Results Measurement System (PRMS) is a Web-based database application providing USDA Natural Resources Conservation Service, conservation partners, and the public fast and easy access to accomplishments and progress toward strategies and performance. The PRMS may be viewed at http://sugarberry.itc.nrcs.usda.gov/netdynamics/deeds/index.html. From the PRMS Products Menu, select "Products," then select "Conservation Treatments." Select the desired program and parameters and choose "Generate Report."

The data can be used to determine broad distribution trends in service provided to customers by NRCS conservation partnerships. These data do not show sufficient detail to enable evaluation of site-specific conditions (e.g., privately-owned farms and ranches) and are intended to reflect general trends.

CONSERVATION PRACTICE	ACRES
Conservation Buffer	7
Erosion Control	3,468
Irrigation Management	0
Nutrient Management Applied	4,121
Pest Management	3,901
Prescribed Grazing	2,744
Salinity and Alkalinity Control	0
Tree and Shrub Practices	97
Tillage and Residue Management	1,282
Wildlife Habitat Management	353
Wetlands Created, Restored, and Enhanced	0
Total	**15,973**

Table 5-1. Conservation Practices in Parnership with NRCS in Watts Bar Watershed. *Data are from PRMS for October 1, 1999 through September 30, 2000 reporting period and represent total of Watts Bar and Fort Loudoun Lake Subwatersheds. More information is provided in Watts Bar-Appendix V.*

5.2.B. Tennessee Valley Authority. TVA's vision for the 21st century is to generate prosperity for the Tennessee Valley by promoting economic development, supplying low-cost, reliable power, and supporting a thriving river system. TVA is committed to the sustainable development of the region and is engaged in a wide range of watershed protection activities. To assist communities across the Tennessee Valley actively develop and implement protection and restoration activities in their local watersheds, TVA formed 12 multidisciplinary Watershed Teams. These teams work in partnership with business, industry, government agencies, and community groups to manage, protect, and improve the quality of the Tennessee River and its tributaries for fishing, swimming, drinking, and recreational uses. TVA also operates a comprehensive

monitoring program to provide real-time information to the Watershed Teams and other entities about the conditions of these resources. The following is a summary of TVA's resource stewardship activities in the Watts Bar watershed.

MONITORING

Vital Signs Monitoring

Reservoir Monitoring: TVA has monitored the quality of water resources of Watts Bar Reservoir regularly as part of its Vital Signs Monitoring effort since 1991. Physical, chemical, and biological indicators (dissolved oxygen, chlorophyll, sediment chemistry, benthos, and fish) provide information from various habitats on the ecological health of the reservoir. Sampling is done in riverine inflow areas (TN River Mile 600 and Clinch River Mile 20) a mid-reservoir area (TN River Mile 560), and the forebay area near Watts Bar Dam (TN River Mile 532). All parameters are sampled at the mid-reservoir and forebay stations while dissolved oxygen, benthos, and fish are sampled at the inflow stations.

Numeric ratings are given to all of the indicators sampled at each station. The lowest possible rating for any indicator is 1 (poorest condition) while the highest rating is 5 (best condition). Sediment chemistry is an exception; 0.5 is the lowest rating, 2.5 the highest. This information is used to evaluate conditions at each location as well as to develop an ecological health score for the reservoir. To obtain this score, ratings from all locations are summed and divided by total possible points for the reservoir. The result is then multiplied by 100. The lowest possible score is 20, the highest is 100.

The following chart presents Reservoir Vital Signs scores for each year for which data are available. Reservoir Vital Signs samples were collected again in 2000. Results will be made available when analyses are complete. Results to date show that indicators usually rate highest at the mid-reservoir site and lowest at the forebay and Clinch River inflow site. As can be seen in the chart below, the ecological health score has declined since monitoring began in 1991. The indicator primarily responsible for this decline in score is chlorophyll, an indicator of nutrient levels in the water. Chlorophyll concentrations have increased substantially during this monitoring period, which in turn lowered the rating for this indicator and, hence, lowered the overall ecological health score for Watts Bar Reservoir.

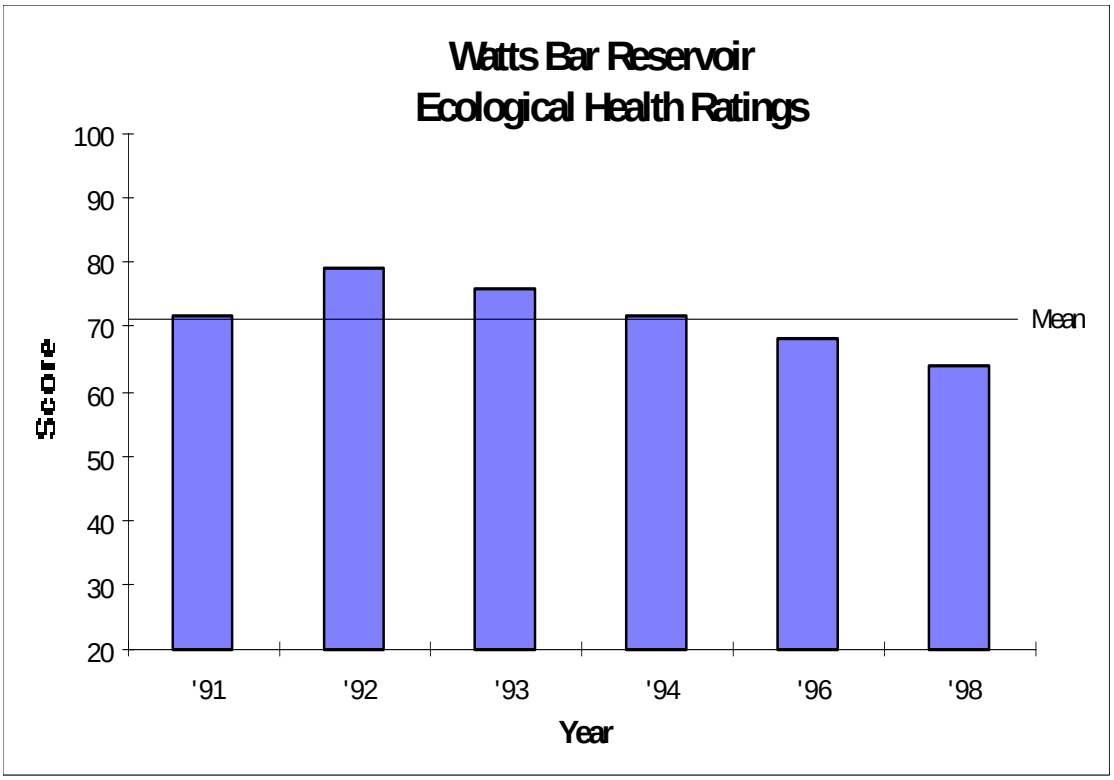

Figure 5-1. TVA's Watts Bar Ecological Health Ratings.

Bacteriological sampling: Twenty six sites on Watts Bar Reservoir were sampled ten times each for fecal coliform bacteria in 2000. All but one site met the State of Tennessee bacteriological water quality criteria for water contact recreation [Tennessee's criteria for water contact recreation requires the collection of at least 10 fecal coliform samples within a 30 day period, with a geometric mean less than 200 fecal coliform colonies per 100 milliliters of water. Also, no single sample should exceed 1,000 colonies per 100 milliliters.]. Eden on Lake Beach exceeded the Tennessee bacteriological water quality criteria because a single sample exceeded 1,000 colonies per 100 milliliters. However, there are no State of Tennessee swimming advisories on Watts Bar Reservoir.

Samples were collected at the following locations:

Site Name	Site Location	Type of Site
B.S.A. Camp Buck Toms	TRM 550	swim
Blue Springs Marina	TRM 548	boat ramp
KOA Campground and Marina	TRM 562	boat ramp
Jackson Island	Wolf Creek off Piney R.	boat ramp
Whites Creek Public Access Area	Whites Creek M 6.1, TRM 545.0R	canoe
Euchee Marina-Beach	TRM 539.9L	swim
Campground on the Lakeshore-Beach	Rowden Branch M 1.8, TRM 540.0L	swim
Bayside Marina-Beach	Gordon Branch M 1.4, TRM 548.0L	swim
Brigadoon Resort-Beach	TRM 544.9R	swim
Lakeside Resort-Beach	Camp Creek M 0.6, TRM 545.0R	swim
Arrowhead Resort-Beach	Rector Branch M 1.1, TRM 545.0R	swim
Red Cloud CG-Beach	TRM 542.1R	swim
Eden on Lake-Beach	TRM 542.3R	swim
Rhea Harbor-Beach	Wolf Creek M 1.7, TRM 532.5R	swim
Whites Creek Boat Ramp	Whites Creek M 3R, TRM 545.0R	boat ramp
Roane County Park-Beach	Caney Creek M 3.0R, TRM 562.3R	swim
Kingston City Park-Beach	Clinch River M 1.0L	swim
Spring City Park Beach	Piney River embayment	swim
Caney Creek Bridge to Campground	Caney Creek M 3.0L, TRM 562.3R	boat ramp
Watts Bar Dam RA-TVA Beach	TRM 530.1	swim
Fooshee Pass DUA-Beach	Wann Branch M 2.0, TRM 538.0L	swim
Hornsby Hollow-Beach (nr BB court)	Rowden Branch M 1.3, TRM 540.0L	swim
Hornsby Hollow CG-Beach	Rowden Branch M 1.2, TRM 540.0L	swim
Rhea Springs DUA-Beach	Muddy Creek M 0.2, TRM 532.5R	swim
Riley Creek DUA-Beach	Riley Creek M 0.5R, TRM 570.0L	swim
Caney Creek Informal Swimming Area	Caney Creek M 3.0R, TRM 562.3R	swim

Table 5-2. TVA's Sample Site Locations.

The swimming beaches are scheduled for sampling every year and the canoe access sites and boat ramps every other year. Data from this sampling effort is shared in a timely manner with TDEC's Division of Water Pollution Control.

Fish Flesh Toxic Contaminants:

Several agencies cooperate to keep abreast of contaminant levels in fish from Watts Bar Reservoir because of existing fish consumption advisories. TVA is a primary participant in this effort and collects and analyzes fish from Watts Bar on a routine basis. TVA collected channel catfish and largemouth bass for broad spectrum analysis in autumn 1996 and 2000. Channel catfish were also collected in autumn 1998 and analyzed for PCBs and selected pesticides. Results for the 2000 survey are not yet available, but results for 1996 and 1999 show no dramatic change in PCB levels (the primary contaminant of concern) or any additional contaminants which should be of concern.

Further information on Vital Signs Monitoring can be obtained by writing to Donald Dycus at: Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee, 37402 or calling him at 423/751-7322

Stream Bioassessment

Condition of water resources in Watts Bar watershed streams is measured using three independent methods; Index of Biotic Integrity (IBI), number of mayfly, stonefly, and caddisfly taxa (EPT), and Habitat Assessment. Not all of these tools were used at each stream sample site.

IBI - The index of biotic integrity (IBI) assesses the quality of water resources in flowing water by examining a stream's fish assemblage. Fish are useful in determining long-term (several years) effects and broad habitat conditions because they are relatively long-lived and mobile. Twelve metrics address species richness and composition, trophic structure (structure of the food chain), fish abundance, and fish health. Each metric reflects the condition of one aspect of the fish assemblage and is scored against reference streams in the region known to be of very high quality. Potential scores for each of the twelve metrics are 1-poor, 3-intermediate, or 5-the best to be expected. Scores for the 12 metrics are summed to produce the IBI for the site. The following table associates IBI ranges with attributes of fish assemblages.

EPT - The number and types of aquatic insects, like fish, are indicative of the general quality of the environment in which they live. Unlike fish, aquatic insects are useful in determining short-term and localized impacts because they are short-lived and have limited mobility. The method TVA uses involves only qualitative sampling and field identification of mayflies (Ephemeroptera), stoneflies (Plecoptera), and caddisflies (Trichoptera) to the family taxonomic level (EPT). The score for each site is simply the number of EPT families. The higher EPT scores are indicative of high quality streams because these insect larvae are intolerant of poor water quality. Scores in the Watts Bar watershed ranged from a low of zero to a high of 21 in the most pristine stream.

Habitat Assessment - The quality and quantity of habitat (physical structure) directly affect aquatic communities. Habitat assessments are done at most stream sampling sites to help interpret IBI and EPT results. If habitat quality at a site is similar to that found at a good reference site, any impacts identified by IBI and EPT scores can reasonably be attributed to water quality problems. However, if habitat at the sample site differs considerably from that at a reference site, lower than expected IBI and EPT scores might be due to degraded habitat rather than water quality impacts.

The habitat assessment method used by TVA (modified EPA protocol) compares observed instream, channel, and bank characteristics at a sample site to those expected at a similar high-quality stream in the region. Each of the stream attributes listed below is given a score of 1 (poorest condition) to 4 (best condition). The habitat score for the sample site is simply the sum of these attributes. Scores can range from a low of 10 to a high of 40.

1. Instream cover (fish)
2. Epifaunal substrate
3. Embeddedness
4. Channel Alteration
5. Sediment Deposition
6. Frequency of Riffle
7. Channel Flow Status
8. Bank vegetation protection - Left bank and right bank, separately
9. Bank stability - Left bank and right bank, separately
10. Riparian vegetation zone width - Left bank and right bank, separately

Sample Site Selection - Site selection is governed primarily by study objectives, stream physical features, and stream access. TVA's objective is to characterize the quality of water resources within a watershed (11-digit hydrologic unit). Sites are typically located in the lower end of sub-watersheds and at intervals on the mainstem to integrate the effects of land use. The accompanying map shows all of the 30 sites sampled in the Watts Bar watershed by TVA since 1991. These sites are typically sampled every five years to keep a current picture of watershed condition. The next round of sampling in the Watts Bar watershed will be coordinated with the monitoring phase of TDEC's Watershed Cycle which calls for data collection to begin again in 2002.

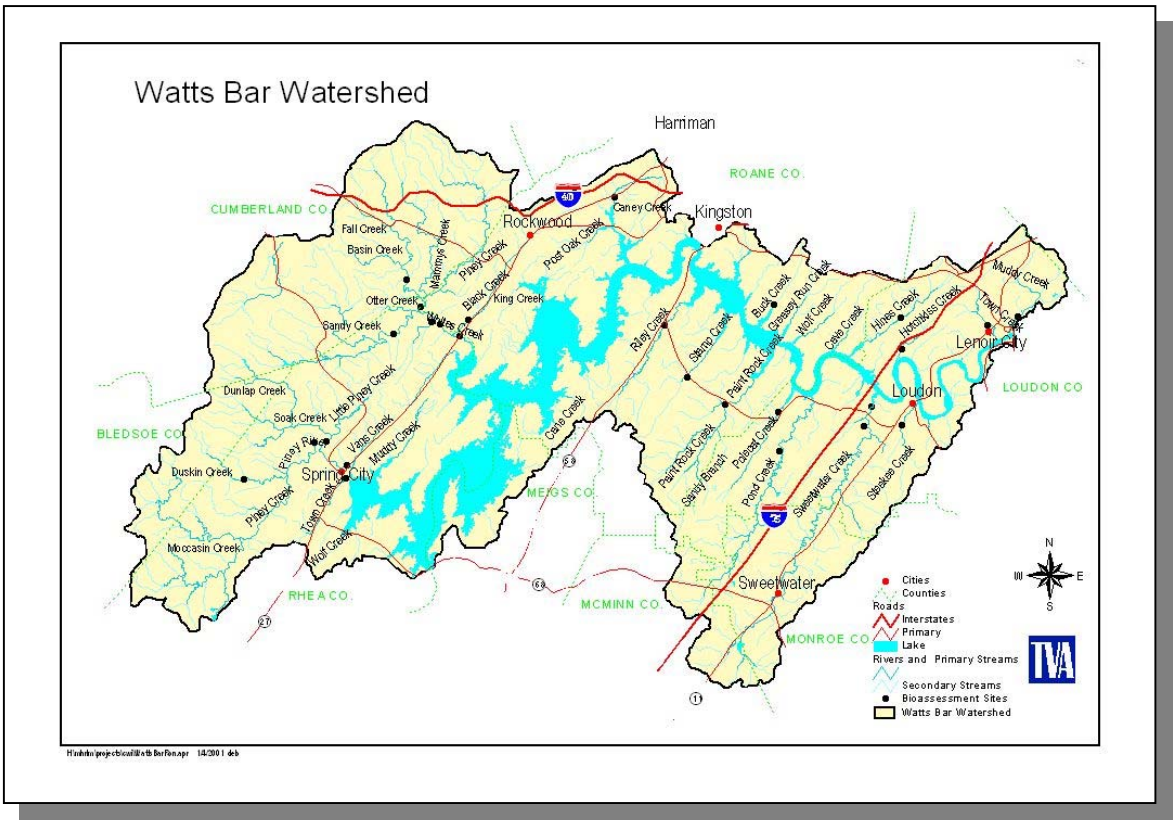

Figure 5-2. TVA's Sample Site Locations in Watts Bar Watershed.

Details about stream bioassessment sampling sites and scores can be obtained by writing Charles Saylor at Tennessee Valley Authority, PO Box 920, Ridge Way Road, Norris, TN 37818 or calling him at 865/632 -1779.

WATERSHED ASSISTANCE

Outreach

The National Clean Boating Campaign is a partnership program which highlights the importance of clean water so boating will continue to be fun and safe for future generations. The program demonstrates how boaters can be good stewards of their water environment through best boating and marina practices. The Clean Boating Campaign on Watts Bar began in 1999 with materials distributed to local marinas that expressed an interest in the program. TVA plans to continue this partnership in upcoming years by working with the marinas and the Watts Bar Lake Association.

The Tennessee Valley Clean Marina Initiative is an effort by TVA to promote environmentally-responsible marina practices. A voluntary program, established in support of the National Clean Boating Campaign, will help marina operators protect the resource that provides them with their livelihood. Plans are to implement this program on Watts Bar Reservoir in 2001 and continue as long as it brings about positive change.

The Watts Bar Lake Association's purpose "is to maintain, support, and protect the rights of lake property owners and lake users while encouraging and promoting good and practical stewardship of Watts Bar Lake, including its ecology, water quality, resource management and aesthetics." TVA has supported the association by providing speakers for their meetings and finical support for their litter cleanups. We are helping them expand their program with other projects like the Clean Boating Campaign and seedling give-aways or shoreline stabilization demonstrations.

Protection and restoration activities

Three counties around Watts Bar receive funds from TVA to remove trash and litter and other pollution from boat ramps, informal recreation sites, and along nearby roadsides (at least 50 sites get cleaned twice a year). The funds are for establishing and supporting community-led cleanups, education programs, and prevention measures. TVA provides funding to Keep Roane Beautiful, Meigs County, and Rhea County.

Packages of native riparian plant seedlings have been distributed by TVA in several areas around Watts Bar Reservoir to promote riparian buffer development along the reservoir and tributary streams. In the past, these packages included 63 seedlings of native trees and shrubs. Fifty packages were distributed over the past 2 years in the Watts Bar watershed. This year, fifty packages will be distributed in the upper tributary streams of Watts Bar Reservoir, but the number of seedling per package has been reduced to around 32 because people had difficulty getting them all planted. Plans are to continue this program and add dry upland native species for property owners living on the reservoir.

Over 3,000 feet of reservoir shoreline were stabilized at five sites from October, 1999 to October, 2000. These included:

Site	Feet of Shoreline Stabilized
Hornsby Hollow	560
Ladd Park, Kingston	1,300
Sand Island	420
Camp Bucktoms	500
Island at River Mile 542.3	400

Four different types of bank stabilization techniques were used at Ladd Park in Kingston to not only restore severely eroding shoreline but to demonstrate options, other than armoring, that local citizens might use. In 2001, approximately 900 feet of shoreline will be stabilized at two sites.

5.3 State Partnerships.

5.3.A. TDEC Division of Water Supply. Congress, the Environmental Protection Agency, and the states are increasing their emphasis on the prevention of pollution, particularly in the protection of the raw water sources for public water systems. The initial step toward prevention of contamination of public water supplies came with the Federal Safe Drinking Water Act Amendments of 1986. At that time, each state was required to develop a wellhead protection program to protect the water source of public water systems relying on groundwater (wells or springs). The new Source Water Assessment provisions of the Federal Safe Drinking Water Act of 1996 Amendments expanded the scope of protection beyond groundwater systems to include protection of the waters supplying surface water systems.

More information may be found at: www.state.tn.us/environment/dws .

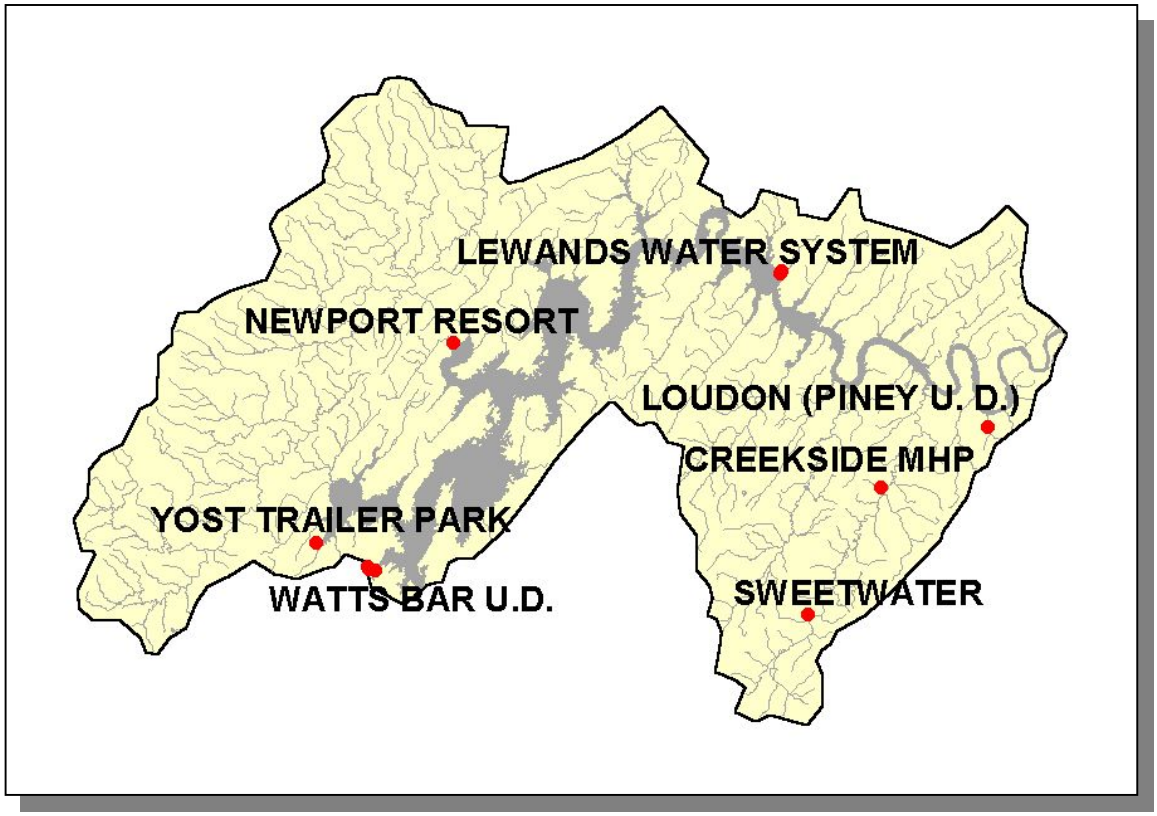

Figure 5-3. Location of Communities Using Groundwater for Water Supply in Watts Bar Watershed.

A "wellhead" is the source area for the water, which is withdrawn through a well or spring, similar to the concept of the head of a river. To protect the water supply, it is important to know from where the water flowing to that well or spring is coming. Source water/wellhead protection areas for public water systems using groundwater are generally based on hydrologic considerations and/or modeling. Source water protection areas for public water systems using surface water are based on the portion of the watershed area upstream of the water intake.

There are three basic steps involved in a wellhead protection program: 1) defining the wellhead protection area, 2) inventorying the potential contaminant sources within that area, and 3) developing a wellhead protection plan. The official designation of wellhead protection areas provides valuable input and emphasis to government agencies in the siting of facilities and the prioritization and cleanup of contaminated sites.

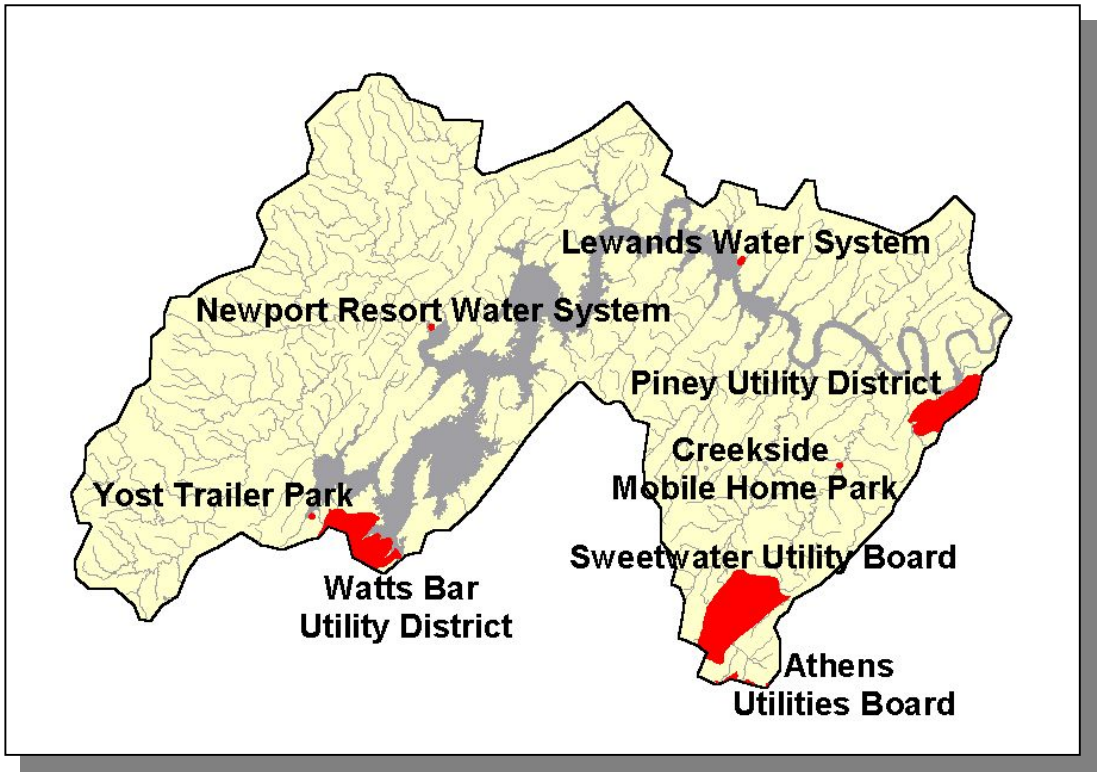

Figure 5-4. Location of Communities in the Wellhead Protection Program in Watts Bar Watershed.

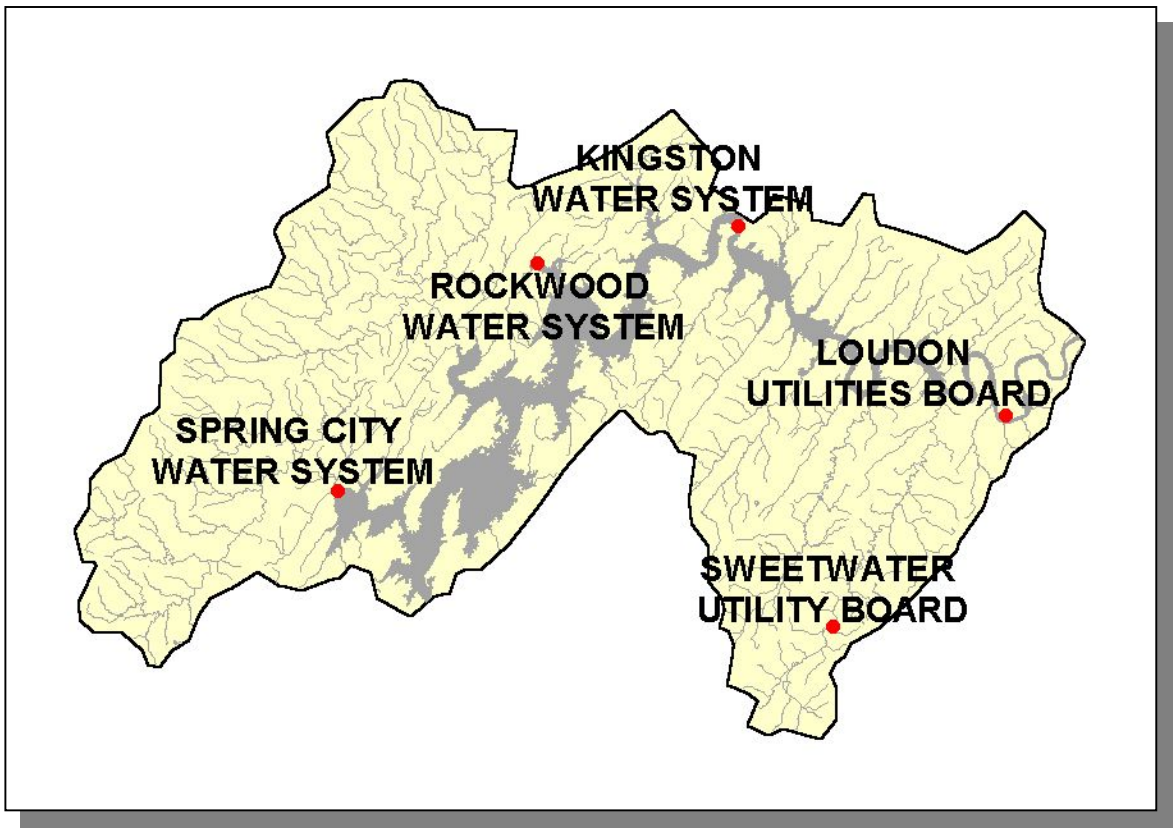

Figure 5-5. Location of Communities with Surface Water Intakes for Water Supply in Watts Bar Watershed.

As a part of the Source Water Assessment Program, public water systems are evaluated for their susceptibility to contamination. These individual source water assessments with susceptibility analyses are available to the public at http://www.state.tn.us/environment/dws as well as other information regarding the Source Water Assessment Program and public water systems.

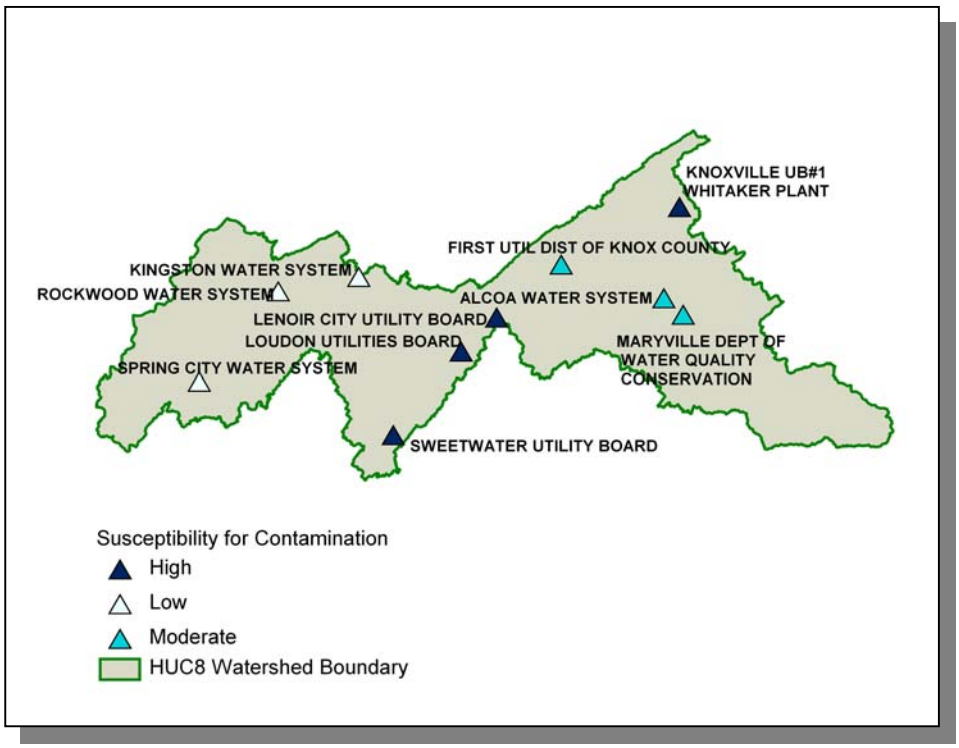

Figure 5-6. Susceptibility for Contamination in the Ft. Loudon/Watts Bar Lake Watershed.

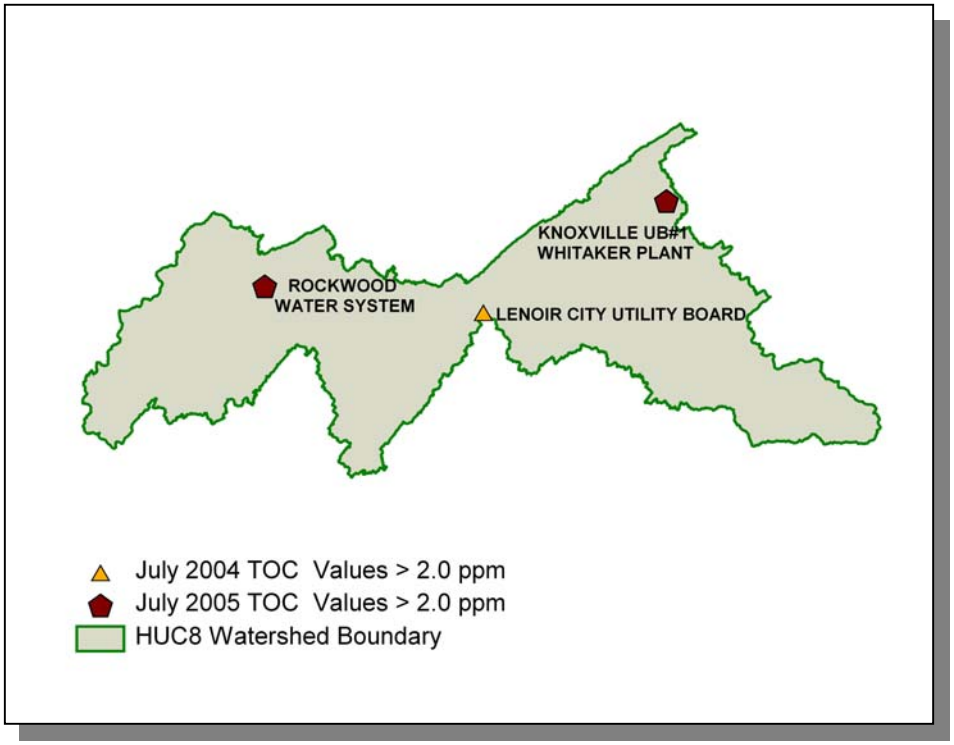

Figure 5-7. July 2004 and 2005 Raw Water Total Organic Carbon (TOC) Analysis in the Ft. Loudon/Watts Bar Lake Watershed.

5.3.B. State Revolving Fund. TDEC administers the state's Clean Water State Revolving Fund Program. Amendment of the Federal Clean Water Act in 1987 created the Clean Water State Revolving Fund (SRF) Program to provide low-interest loans to cities, counties, and utility districts for the planning, design, and construction of wastewater facilities. The U.S. Environmental Protection Agency awards annual capitalization grants to fund the program and the State of Tennessee provides a twenty-percent funding match. TDEC has awarded loans totaling approximately $500 million since the creation of the SRF Program. SRF loan repayments are returned to the program and used to fund future SRF loans.

SRF loans are available for planning, design, and construction of wastewater facilities, or any combination thereof. Eligible projects include new construction or upgrading/expansion of existing facilities, including wastewater treatment plants, pump stations, force mains, collector sewers, interceptors, elimination of combined sewer overflows, and nonpoint source pollution remedies.

SRF loan applicants must pledge security for loan repayment, agree to adjust user rates as needed to cover debt service and fund depreciation, and maintain financial records that follow governmental accounting standards. SRF loan interest rates range from zero percent to market rate, depending on the community's per-capita income, taxable sales, and taxable property values. Most SRF loan recipients qualify for interest rates between 2 and 4 percent. Interest rates are fixed for the life of the term of the loan. The maximum loan term is 20 years or the design life of the proposed wastewater facility, whichever is shorter.

TDEC maintains a Priority Ranking System and Priority List for funding the planning, design, and construction of wastewater facilities. The Priority Ranking List forms the basis for funding eligibility determinations and allocation of Clean Water SRF loans. Each project's priority rank is generated from specific priority ranking criteria and the proposed project is then placed on the Project Priority List. Only projects identified on the Project Priority List may be eligible for SRF loans. The process of being placed on the Project Priority List must be initiated by a written request from the potential SRF loan recipient or their engineering consultant. SRF loans are awarded to the highest priority projects that have met SRF technical, financial, and administrative requirements and are ready to proceed.

Since SRF loans include federal funds, each project requires development of a Facilities Plan, an environmental review, opportunities for minority and women business participation, a State-approved sewer use ordinance and Plan of Operation, and interim construction inspections.

For further information about Tennessee's Clean Water SRF Loan Program, call (615) 532-0445 or visit their Web site at http://www.tdec.net/srf.

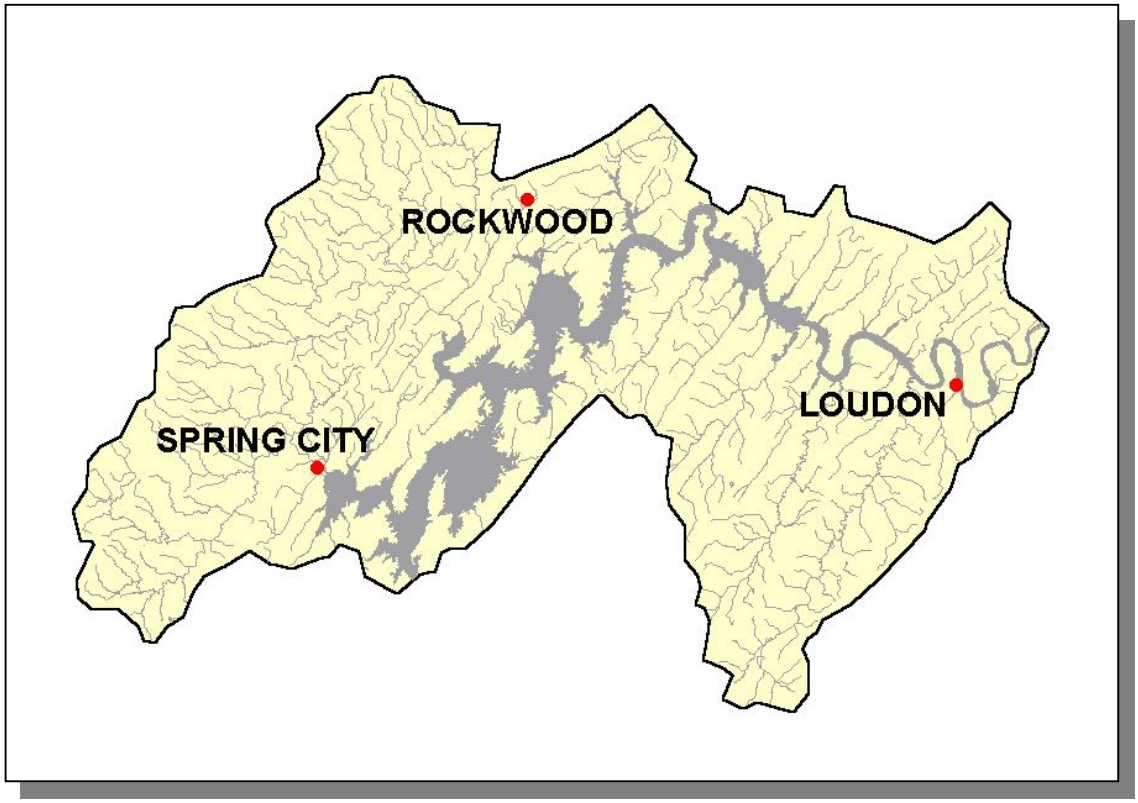

Figure 5-8. Location of Communities Receiving SRF Loans or Grants in the Watts Bar Watershed. *More information is provided in Watts Bar-Appendix V.*

5.3.C. Tennessee Department of Agriculture. The Tennessee Department of Agriculture's Water Resources Section consists of the federal Section 319 Nonpoint Source Program and the Agricultural Resources Conservation Fund Program. Both of these are grant programs which award funds to various agencies, non-profit organizations, and universities that undertake projects to improve the quality of Tennessee's waters and/or educate citizens about the many problems and solutions to water pollution. Both programs fund projects associated with what is commonly known as "nonpoint source pollution."

The Tennessee Department of Agriculture's Nonpoint Source Program (TDA-NPS) has the responsibility for management of the federal Nonpoint Source Program, funded by the US Environmental Protection Agency through the authority of Section 319 of the Clean Water Act. This program was created in 1987 as part of the reauthorization of the Clean Water Act, and it established funding for states, territories and Indian tribes to address NPS pollution. Nonpoint source funding is used for installing Best Management Practices (BMPs) to stop known sources of NPS pollution, training, education, demonstrations and water quality monitoring. The TDA-NPS Program is a non-regulatory program, promoting voluntary, incentive-based solutions to NPS problems. The TDA-NPS Program basically funds three types of programs:

- BMP Implementation Projects. These projects aid in the improvement of an impaired waterbody, or prevent a non-impaired water from becoming listed on the 303(d) List.

- Monitoring Projects. Up to 20% of the available grant funds are used to assist the water quality monitoring efforts in Tennessee streams, both in the state's 5-year watershed monitoring program, and also in performing before-and-after BMP installation, so that water quality improvements can be verified.

- Educational Projects. The intent of educational projects funded through TDA-NPS is to raise the awareness of landowners and other citizens about practical actions that can be taken to eliminate nonpoint sources of pollution to the waters of Tennessee.

The Tennessee Department of Agriculture Agricultural Resources Conservation Fund Program (TDA-ARCF) provides cost-share assistance to landowners across Tennessee to install BMPs that eliminate agricultural nonpoint source pollution. This assistance is provided through Soil Conservation Districts, Resource Conservation and Development Districts, Watershed Districts, universities, and other groups. Additionally, a portion of the TDA-ARCF is used to implement information and education projects statewide, with the focus on landowners, producers, and managers of Tennessee farms and forests.

Participating contractors in the program are encouraged to develop a watershed emphasis for their individual areas of responsibility, focusing on waters listed on the Tennessee 303(d) List as being impaired by agriculture. Current guidelines for the TDA-ARCF are available. Landowners can receive up to 75% of the cost of the BMP as a reimbursement.

The Tennessee Department of Agriculture has spent $160,876 for Agriculture BMPs in the Watts Bar Watershed since 1998. Additional information is provided in Watts Bar Watts Bar-Appendix V.

Since January of 1999, the Department of Agriculture and the Department of Environment and Conservation have had a Memorandum of Agreement whereby complaints received by TDEC concerning agriculture or silviculture projects would be forwarded to TDA for investigation and possible correction. Should TDA be unable to obtain correction, they would assist TDEC in the enforcement against the violator.

5.3.D. Tennessee Wildlife Resources Agency. The Tennessee Wildlife Resources Agency conducts a variety of activities related to watershed conservation and management. Fish management activities include documentation of fish and aquatic life through stream sampling and stocking of both warm water and cold water sportfish. Fish data are managed in the Geographic Information System (GIS) project called Tennessee Aquatic Data System (TADS). TWRA nongame and endangered species projects include restoration of special status fish ,aquatic life, and riparian wildlife including otters, and nongame fish such as the blue masked darter. The Agency conducts a variety of freshwater mussel management, conservation, and restoration projects including the propagation and reintroduction of species once common in Tennessee streams. TWRA has been involved in riparian conservation projects since 1991 in partnership with state and federal agencies and conservation groups.

For information on these and other water resources related activities, please contact your Regional TWRA office at the following phone numbers:

West Tennessee (Region I)	1-800-372-3928
Middle Tennessee (Region II)	1-800-624-7406
Cumberland Plateau (Region III)	1-800-262-6704
East Tennessee (Region IV)	1-800-332-0900.

TDD services are available @ 615-781-6691.
TWRA's website is http://www.state.tn.us/twra.

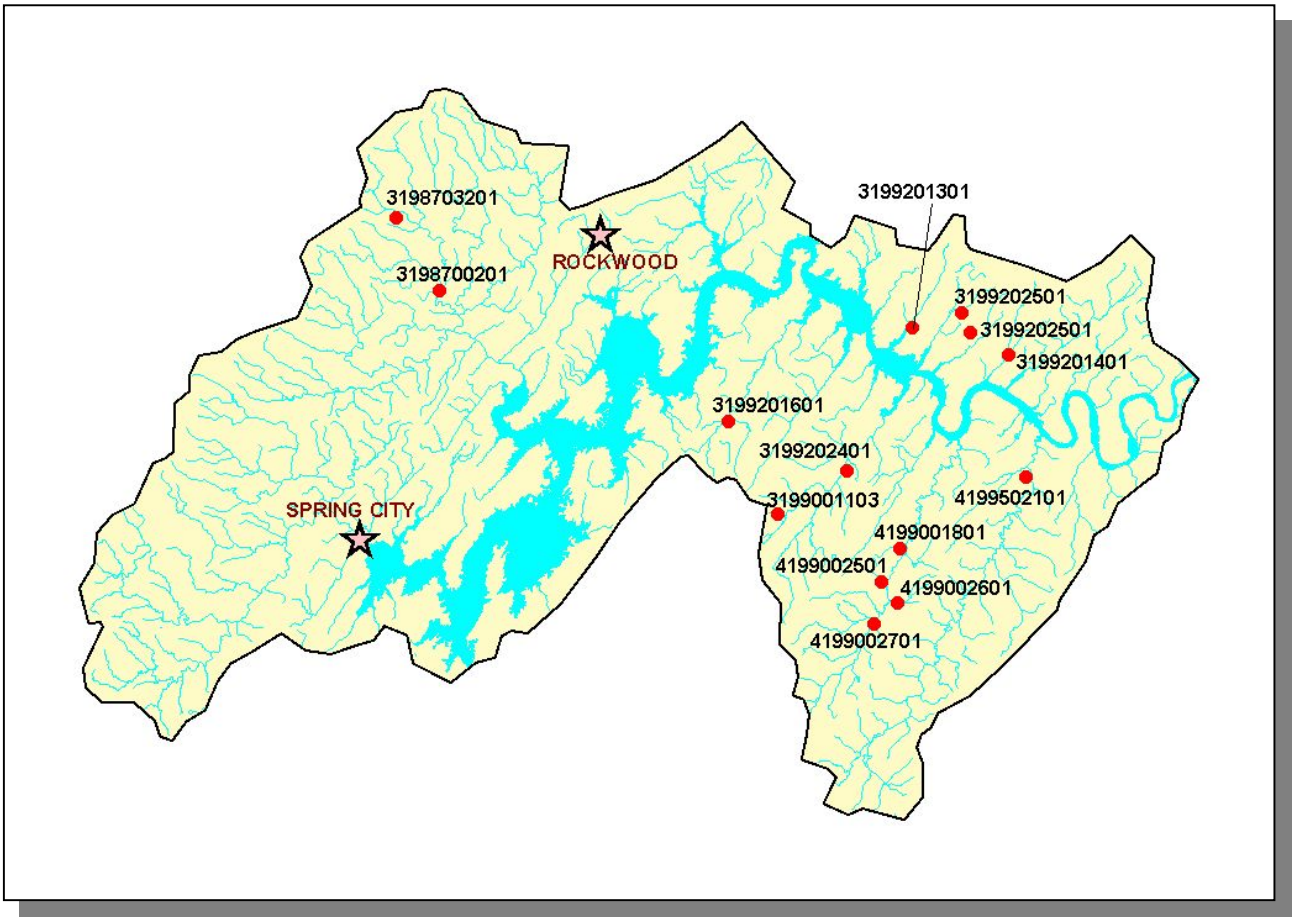

Figure 5-9. Location of TWRA TADS Sampling Sites in Watts Barr Watershed. *Locations of Spring City and Rockwood are shown for reference. Additional Information is presented in Watts Bar-Appendix V.*

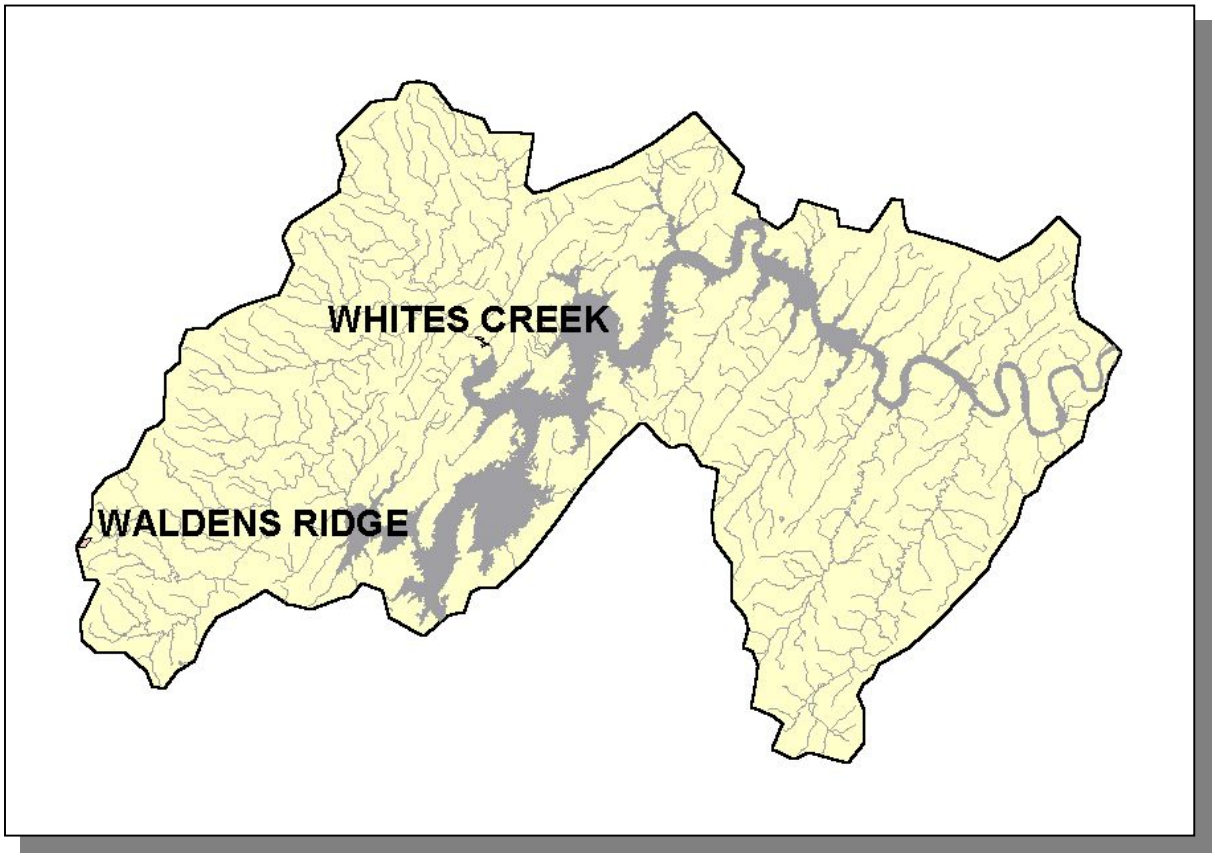

Figure 5-10. Location of TWRA Wetland Sites in Watts Bar Watershed Purchased with Wetland Mitigation Funds.

5.4 LOCAL INITIATIVES.

5.4.A. Oak Ridge Reservation Local Oversight Committee. The Oak Ridge Reservation (ORR) Local Oversight Committee, Inc., (LOC) is a non-profit regional organization that represents the interests of local governments regarding Department of Energy's environmental management program and the operation of the Oak Ridge Reservation (ORR). The Board of Directors of the LOC is composed of elected and appointed officials from the seven surrounding and downstream counties and the City of Oak Ridge, plus the Chair of the LOC's Citizens' Advisory Panel (CAP). The CAP has up to 20 members with diverse backgrounds representing the greater ORR region; the CAP studies problems in depth and provides advice to the LOC Board and other governmental agencies. The Watts Bar Reservoir Fish Advisory study was a special project of the CAP in conjunction with state and federal agencies to address concerns of the counties on Watts Bar Reservoir regarding the effects of PCB contamination on fishing and other recreational activities.

The brochure on Watts Bar Reservoir Fish Advisory Pointers is designed to clearly describe the meaning of the fish advisory on Watts Bar Reservoir. It discusses what fish are affected by the PCB contamination in the sediments of the reservoir and what fish are not affected. The brochure also describes how often it is considered safe to eat fish on the advisory list and recommends preparation methods to minimize ingestion of PCBs, which tend to accumulate in the fatty tissues. Further, the brochure notes that the fish advisory should not affect other recreational uses of the reservoir, such as boating, swimming, water skiing, or catch-and-release fishing.

Publication of the brochure resulted from a multi-organizational effort to address the fears of residents and tourists regarding the warning signs posted around Watts Bar Reservoir. Without explanation, these signs imply that there are significant dangers associated with recreational use of the posted waters. In fact, the Clinch River arm of Watts Bar Reservoir, despite being downstream from the U.S. Department of Energy's Oak Ridge Reservation, does not pose any more threat than the other reservoirs in Tennessee that have fish advisories for PCB contamination. The organizations that worked to create and review the brochure were Agency for Toxic Substances and Disease Registry, Oak Ridge Reservation Local Oversight Committee (LOC), Tennessee Department of Environment and Conservation, Tennessee Wildlife Resources Agency, and Tennessee Department of Health. Free copies of the brochure are available from the LOC for distribution by marinas or to interested individuals; call toll-free 888-770-3073 or e-mail loc@icx.net.